

net.savvy

Building
Information
Literacy
in the
Classroom

2nd Edition

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Chapter 3

Understanding InfoSavvy and NetSavvy

The Effect of New Technologies on Today's Workplace

Today's high-tech and knowledge-based industries require not just people who can read or who are well read, but people who can use their reading skills to process information in all its current forms. Literacy in this fast-changing world is less about "What knowledge did you acquire years ago in school?" and more about "What can you do with the knowledge available today?" With the huge increase in the amount of available information, it's no longer about "How many information sources can you access?" as much as it's about "Can you sift through the myriad of sources to find the most relevant and reliable ones?" or "Can you find or create the information that we need to solve a specific problem right now?"

This is a remarkable change from what employers required from the average clerical or industrial worker not long ago. Workers were placed in a rigid hierarchy and expected to be punctual, to quietly follow orders, and to do things without question. Workers would have acquired most of the knowledge necessary for a good job by the time they had finished school or a training program. For a long time, a specialized knowledge base could get you a reasonable, well-paid career for life in a factory or an office. Then suddenly, things changed.

The emergence of the Information Age and the increasing power of information systems combined with rapid advances in communication systems caused widespread downsizing in the traditional Industrial Age workforce, including the elimination of whole sectors of the economy. Today, the fastest growing sectors of the economy are those associated with the information-based, high-technology and communications industries.

The Heart of Being InfoSavvy

Unfortunately, many of today's students are not being adequately prepared for the Information Age. It's so new and changing so rapidly that many others have not been formally prepared for it either, including parents, professionals, business executives, or even teachers. The purpose of InfoSavvy is to help teachers systematically

provide information literacy experiences for students at all grade levels and in all subject areas. The key process that InfoSavvy uses for any information-processing task is known as the **five aspects (5As) of information literacy**, and this is at the heart of how to become InfoSavvy.

The 5As of Information Literacy

There are five basic steps that can be used to solve any information need:

1. *Asking* (key questions to be answered)
2. *Accessing* (relevant information)
3. *Analyzing* (the acquired information)
4. *Applying* (the information to a task)
5. *Assessing* (the end result and the process)

The Jean-Luc Picard Approach to Solving Problems

To illustrate how the 5As can deal with actual information needs, let's begin by zooming ahead at warp speed and spending a day with Jean-Luc Picard, captain of the starship *Enterprise*. He has the complex job of dealing with the vast cultural differences among the crew, not to mention the technical responsibilities of running a starship, and the apparently ongoing task of avoiding intergalactic war. He also needs to constantly manage huge amounts of information to solve a host of everyday problems and needs. Let's consider how he goes about handling the challenges of daily life.

Obviously he isn't able to hold all of the necessary information in his head. What does he do? He relies on his crew, as well as on a vast network of information technologies (ITs) and a massive information database—what we call the Internet today—to solve his problems. He uses the simple, five-step process described above to solve any number of problems that come his way. The 5As of the InfoSavvy model that he uses are as follows.

- *Asking*: Aware that there's an information need, he considers its context. He then develops a series of problem-related questions to ask of himself, the crew, and the information systems.
- *Accessing*: Based on the questions he has created, he uses a variety of information resources and tools to gather as much data about the information need as he can.
- *Analyzing*: He examines the data and begins to turn it into knowledge by checking its usefulness, suitability, and authenticity.
- *Applying*: It's time to take action! He attempts to solve the problem by assembling the various pieces he has analyzed and then applies the knowledge gained to identify the aliens, avert intergalactic war, save the galaxy, or find a parking spot.

- *Assessing*: Late at night, alone in his quarters, Picard sits with the Captain's Log, reflects on the events that have taken place, assesses the processes that were used, and evaluates the results.

The 5As Approach

This five-stage InfoSavvy process allows him to filter the background noise of InfoWhelm. Filtering provides relevance and context for the effective use of information. Let's now examine each of these five steps more carefully to see what makes Jean-Luc so InfoSavvy.

1. Asking

Asking requires the ability to clearly define the problem and its context in terms of questions. In asking the right questions, Picard sets boundaries and defines the initial parameters for his research, determining what needs to be done to solve the problem. This gives a context and relevance to the mission and helps him make the right connections. It's in the process of addressing these questions that Captain Picard gains ownership of the learning, as well as responsibility for the data.

Crucial Asking skills include

- Understanding the problem to be solved
- Identifying key words and forming questions around them
- Brainstorming
- Thinking laterally
- Understanding ethical issues
- Listening deeply, viewing wisely, and speaking critically
- Filtering information white noise
- Sharing personal knowledge and experience

2. Accessing

Accessing is the wild card of the information cycle because at this stage, the pathways to be followed are totally speculative. One thing tends to lead to another, which means that just about anything can happen. *Accessing* requires Jean-Luc to make links between various data. Through experience, he has learned how to effectively distinguish what should be kept from what should be discarded.

It's important to note that the techniques and skills he uses here are media independent. The various techniques are equally effective whether they are used with a book, a computer, a microfiche, a video, or the Internet. In consciously moving away from a single text or medium as the information resource of choice, the *Accessing* strategies become more important than the specific tools being used. Thus, the choice of tool is largely determined by the information need.

Crucial Accessing skills include

- Determining where the information is
- Determining what skills are needed to find it
- Using a variety of paper and electronic sources
- Prioritizing searching strategies
- Skimming, scanning, and scouring resources for pertinent data
- Doing simple research
- Using filtering skills
- Taking smart notes

3. Analyzing

Analyzing is where the “aha”! experience is created as the different pieces of data are put together. Effective analysis requires that Jean-Luc be able to look at the data critically to see the patterns as they emerge. This includes the ability to identify missing information, to deal with incomplete information, to separate facts from opinions, and to establish the authenticity and credibility of the data. Doing this allows Jean-Luc to turn the data into usable information. The *Analyzing* stage is not a linear process as it may require him to repeatedly revisit his original questions and to access additional data to address the information need more precisely.

Crucial Analyzing skills include

- Organizing and summarizing data from a variety of sources
- Working independently and collaboratively with peers, teachers, or other individuals to document the authenticity and analysis of the data
- Checking data for relevance
- Listing and distinguishing between good, bad, and ugly data sources
- Differentiating fact from opinion
- Examining data for underlying meaning and bias
- Determining when the data answer the original questions and identifying when there is incomplete information
- Revisiting the Asking or Accessing stages to fill in the blanks
- Documenting, crediting, and taking notes to determine authenticity
- Using probability, trends, and best guesses to seek out additional data as needed
- Using all of the above skills to turn the data into useful information

4. Applying

At the application stage, Jean-Luc uses the data that have been accessed, analyzed, and turned into knowledge to take action. In the InfoSavvy context, this knowledge would be used to solve a problem, write an essay, develop a report, create a graph, complete an argument, make a presentation, or do whatever else needs to be done.

At this stage, Picard is dealing with various combinations of the four flavors of information: text, video, audio, and images. The flavors can be assembled in a variety of ways. For Jean-Luc, the critical skill at this stage is being able to take what he's got and address the issue. *Applying* is the stage where products are created, actions are taken, problems are solved, or information needs are satisfied. Being able to access huge amounts of data means nothing unless the data are effectively analyzed, turned into personal knowledge, *and* then applied to resolving the issue.

Crucial Applying skills include

- Identifying an appropriate format for presenting the information
- Applying the format to present the information or solution to the problem

5. Assessing

The *Assessing* stage is the reflective, soul-searching part of the process. Alone in his quarters, Picard revisits each stage of the process and reflects upon the pathways that he followed to get from raw data to information and knowledge. At this stage, he wants to consider not just what was learned, but how it was learned. What worked? What didn't? How could the product, process, or solution have been improved? What could be done better the next time around?

Crucial Assessing skills include

- Asking questions about the processes used and the information obtained
- Reflecting critically on the process
- Acting on these reflections
- Internalizing new learnings
- Transferring the learning to other situations

Becoming InfoSavvy

Regular use of the five stages of the InfoSavvy process has led Jean-Luc to a higher level of information literacy. In fact, Picard has gone beyond being information *literate* to being information *fluent*. Through repeated practice, the individual steps have become transparent, blended in to a single process. The Captain no longer pauses to consider each step separately. Rather he continuously applies them to intuitively solve everyday problems. The process he uses is a spiraling hierarchy of continuous As. *Asking* leads to *Accessing*. *Accessing* leads to *Analyzing*. *Analyzing* leads to *Applying*. *Applying* leads to *Assessing*, which then leads back to a new level of *Asking*.

Becoming NetSavvy

To this point, we have focused on the 5As of InfoSavvy. This process is the basis for solving virtually any information need. Now we will address the issues of

information literacy as they apply to using the Internet to solve an information need. This is the specific subset of InfoSavvy skills needed to become Internet literate or NetSavvy.

The Internet is a unique resource—a three-in-one grab bag of tools unlike any other resources we've ever experienced. It's a communications tool, a research tool, and a publication tool. To be NetSavvy is simply to use specific InfoSavvy skills as they apply to these three aspects of the Internet. Information fluency in all media is to be InfoSavvy, and information fluency as it applies to the Internet is to be NetSavvy.

What Isn't NetSavvy?

Someone suffering from InfoWhelm or at the early stages of technological awareness may assume that buying a computer and learning how to navigate the Internet using a technical manual is the whole solution. Successful learning encompasses much more than this. NetSavvy is not about the decontextualized use of Internet software tools or information-processing skills taught in isolation. From a NetSavvy perspective, the best way to learn about the Internet is to use a Web browser, an e-mail program, or a search engine as a tool to solve a personal need. Deep learning happens only when you use the hardware and software in the context of solving a specific problem. Learning about the hardware and software tools is only a by-product of that problem-solving process.

Now let's turn our attention to how NetSavvy skills can be successfully implemented in the classroom and how the full potential of the Internet can be realized. In Part II, we introduce the reader to the details of the NetSavvy process, including the Teacher Lesson Planners and the Student Tools that work with the NetSavvy Skills Framework. Read on!